



***Executing the Joint Rapid Airfield Construction (JRAC)
Mission in the Future Engineer Force***

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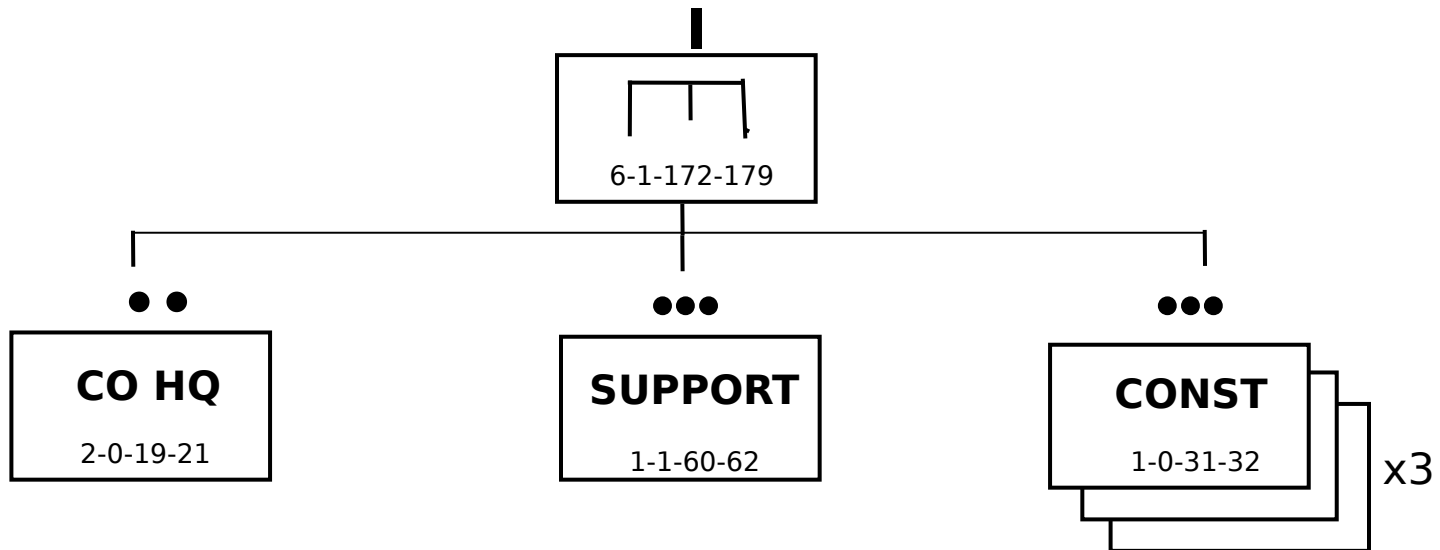


How is the JRAC mission done today?



ENGINEER COMPANY, LIGHT EQUIPMENT

TOE 05443L200



EQUIPMENT RECAPITULATION

S30039 - 9 - SCRAPER
D28804 - 3 - DIST WTR TNK 2500
GAL
T64911 - 18 - TRK DMP MTV
T76541 - 12 - DEUCE
J74886 - 9 - GRADER
T34437 - 6 - SEE
L76693 - 6 - LDR SCP 2 1/2 CY
R13167 - 6 - ROLLER VIBE TYPE I



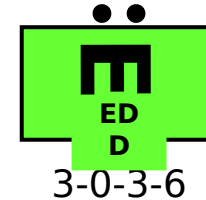
**How will JRAC missions be done by
Future Engineer Forces?**



Early Deployment Detachment (EDD)

MISSION: Performs theater and operational level technical engineer reconnaissance in support of entry and shaping operations during Phase 1-4. Identifies engineer requirements, develops engineer support plans and advises supported HQs on engineer mission tailoring. Identifies and evaluates potential HNS and contract support capabilities within theater to facilitate contract process.

CAPABILITIES: Conducts initial site survey. Develops initial project designs and plans. Evaluates engineer force requirements. Identifies Host Nation Support and contract support capability in theater. Capable of reach back into USACE labs, districts, and centers of expertise. Capable of early entry.



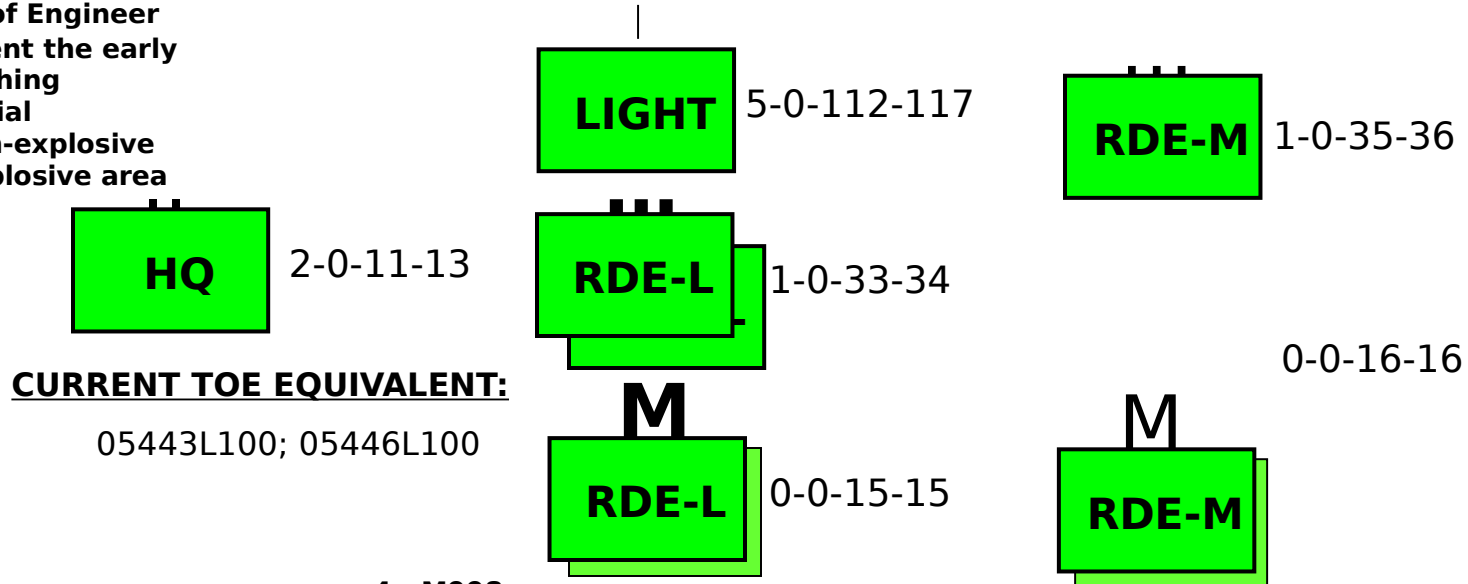
MAJOR EQUIPMENT

- 2 - HMMWV
- 2 - $\frac{3}{4}$ T Trl
- 2 - Tele-Engineering Kit
- 2 - ENFIRE
- 1 - Laptop with AUTOCADD



UA Engineer Support Company

MISSION: Provides C2 of Engineer Effects platoons that augment the early fight. Capable of accomplishing missions including RRR, initial basecamp construction, non-explosive obstacle breaching, non-explosive area clearing, constructing tactical UAV airfields, HLZs, and ALZs



CAPABILITIES:

Capable of command and control three to five platoons as an EMT

Capable of providing two RDE-L and 1 RDE-M platoons to Maneuver UA or SUAs

Establish FARPS, Construct HLZ and UAV. Combine w/horiz module to get ALZ capability

Capable of 24 hour operations

Fully self mobile utilizing organic assets

Total horizontal hours = 860 hours

4 - M998

8 - SSL (900 series) w/Combo Bucket

4 - SSL Dozer Blade, Foot Tamper, Track, Sweeper, Tiller/Pavement Breaker attach

4 - HMEE (self deployable)

12 - MTV Dump (Lapes)

8 - Trailers for MTV Dump to haul SSL

4 - 1.5 Ton Trailer (behind MTV Dump)

4 - MTV Tractor (pull 25T)

4 - JD450

4 - 25 Ton Low Bed Trlr (haul JD450)

4 - RRR Kit

4 - Special Tools Kit (concrete saw, tamper, etc)

4 - 2.5 KVA Tact Gen Set

2 - Cargo HMMWV

2 - DEUCE

2 - HMEE

2 - Med Grader

2 - Small Roller

2 - 613B WD

2 - 613B Scraper

2 - MTV Dump

2 - 1.5 Ton Trailer (behind Dump)

4 - MTV Tractor

4 - 25 ton Lowbed



Rapidly Deployable Earthmoving Platoon - Medium

MISSION:

Provide limited clearing and grubbing operations. Construct limited combat roads/trails. Repair/maintain MSRs. Excavate, grade, and level material. Provide drainage operations and dig trenches. Provide water distribution for purposes of dust control. Provide site preparation for facilities construction. Conduct limited surfacing operations. Construct UAV airfields. Emplace survivability and counter mobility (tank ditches) positions.

CAPABILITIES:

Haul 5 cy of material per lift (FMTV Dump)

Excavate 150 cy (banked)/170 cy (loose) material per hour (DEUCE) 2 - M998

Scoop 1 cy of material per lift (HMEE bucket)

Scoop .23 cy of material per lift (HMEE backhoe)

Haul 2750 gallons of water per lift

Scrape 7-11 cy of material per lift (scraper)

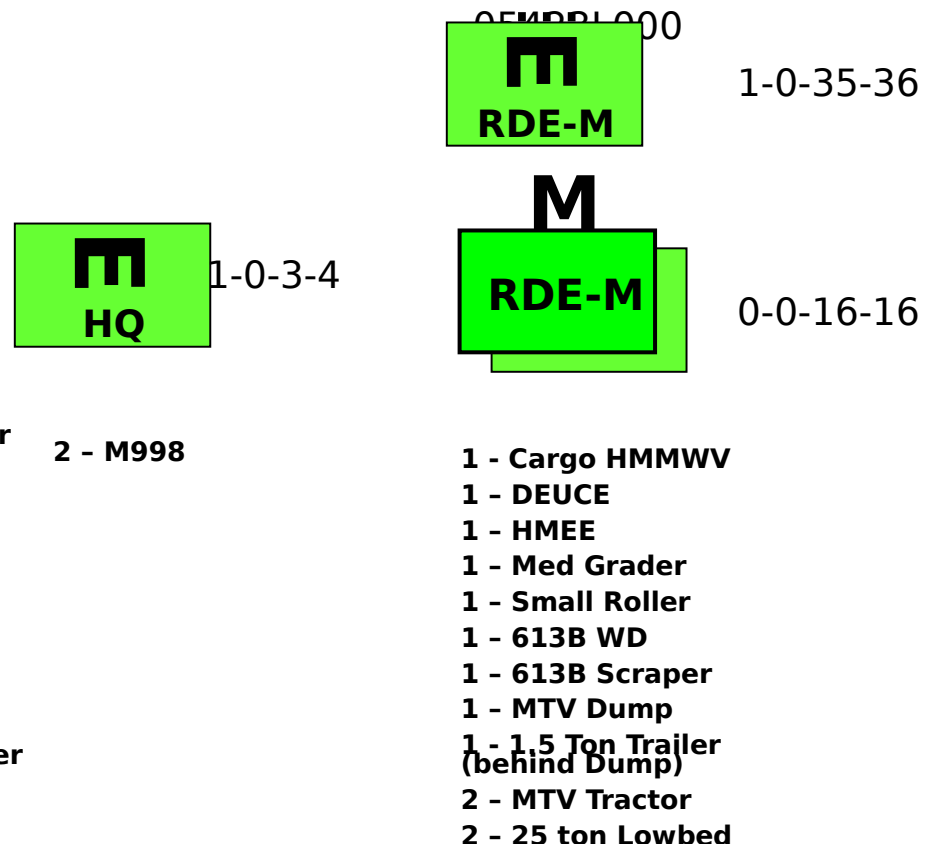
Compact 500 cy per hour (smooth drum)

Compact 350 cy per hour (sheepsfoot)

Maximum self-deployable distance is 190km due to scraper

Capable of 24 hour operations

CURRENT TOE EQUIVALENT:



Total of 300 horizontal construction hours plt (each module has 150 hours)



Rapidly Deployable Earthmoving Platoon - Light

MISSION:

Emplace force protection measures. Emplace field sanitation measures. Repair existing airfields. Establish Forward Logistic Base/FARP. Restore damaged areas. Clear rubble and non-explosive obstacles. Construct helicopter landing zones. Conduct airborne/AA insertion. Conduct general engineering tasks.

CAPABILITIES:

ABN or AA insertion less HMEE, MTV Tractors and Low Bed trailers

Simultaneously repair two 5 m x 5 m craters on an existing airfield

Construct a CH-47 capable HLZ in 2 hours

Haul 10 cy of material per lift

Scrape 1.25 cy of material per lift (SSL)

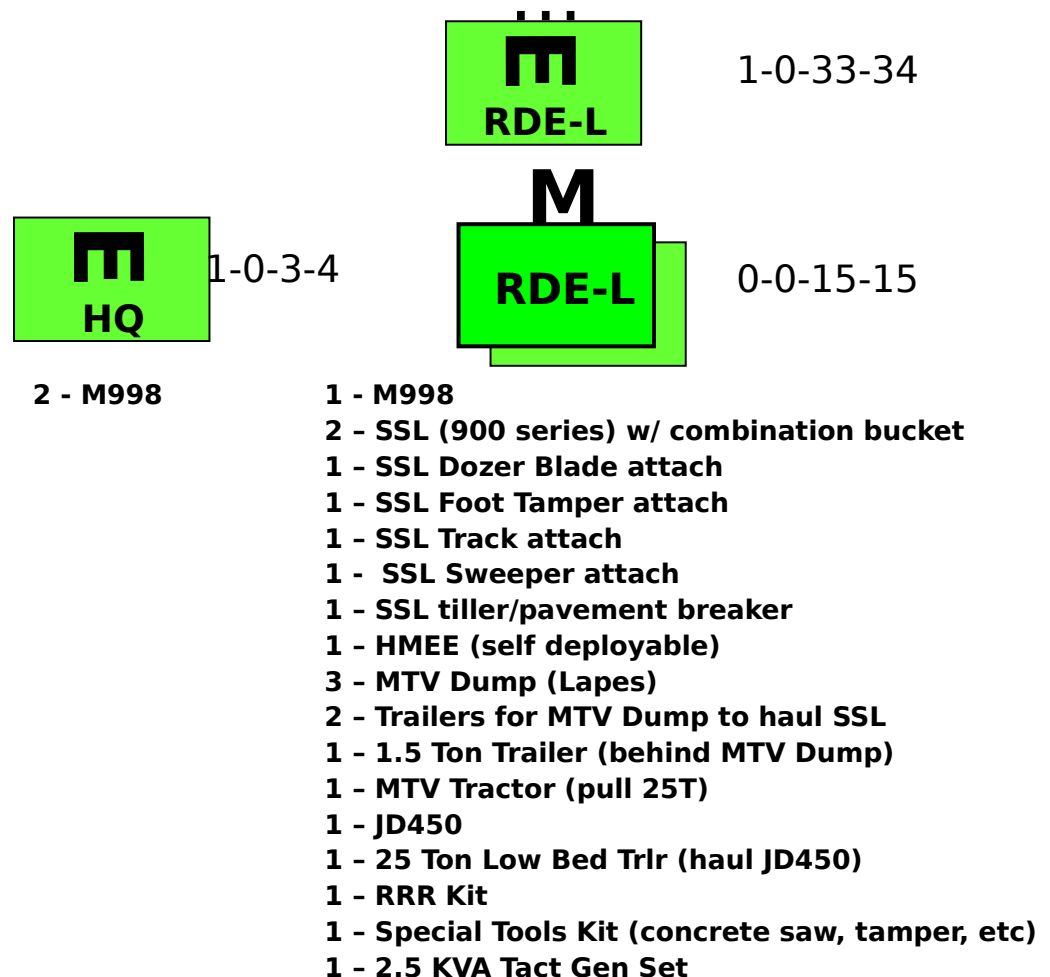
Capable of 24 hour operations

Fully self mobile utilizing organic assets

Total of 280 horizontal construction hours; each module has 140 horizontal hours

CURRENT TOE EQUIVALENT:

05447L100

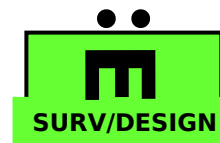




Survey and Design Module

MISSION: Provides construction management for theater level troop/activity concentrations and/or facilities within the JOA. Recommends theater construction priorities and allocation of resources. Monitors the execution of theater level construction missions and provides design modifications. Provides engineering expertise and supervisory personnel for limited QA/QC. Advises commander on HNS and contract support requirements for theater level construction. Provides technical advice to construction related contract CORs or updates to construction scope and schedule.

CAPABILITIES: Approves final design for theater construction missions. Maintains project designs and “as built” drawings and final construction data. Creates and maintains project reports. Provides limited QA/QC for on-going general engineering construction projects;



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MAJOR EQUIPMENT

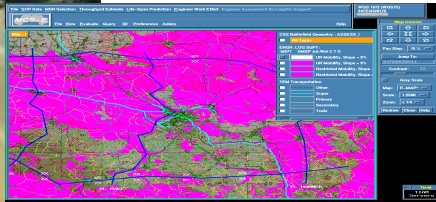
- 3 - AISI Long Range
- 4 - GPS Receiver
- 1 - Soils Test Kit
- 1 - Nuclear Density Test Set
- 1 - Drafting Set
- 1 - Concrete Test Set
- 1 - Asphalt Test Set
- 1 - Tele-Engr Kit
- 2 - ENFIRE
- 1 - Plotter
- 4 - HMMWV
- 2 - $\frac{3}{4}$ T Trl
- 1 - LMTV
- 1 - LMTV Trl

JRAC Research

SITE SELECTION

Pillars

**ENHANCED
CONSTRUCTION**



**Joint
Rapid
Airfield**

Constructi



**RAPID
STABILIZATION**



JRAC Capability Transition

SITE SELECTION

- Early Deployment Detachment (EDD)
 - Survey Design Module
 - Joint-Geospatial Enterprise Service (J-GES)
- Initial Capabilities Document (ICD)**

ENHANCED CONSTRUCTION

- Unit of Action (UA) Engineer Support Company
 - Rapidly Deployable Earthmoving (RDE) Platoons
 - Air-Ground Lines of Communication ICD
 - Rapid Parking Ramp Expansion
- Capability Development Document (CDD) (USAF)**

RAPID STABILIZATION

- JRAC Capability Production Document (CPD)
- Class IV Stocks (NSN)
- JRAC CPD



Air & Ground LOC ICD and JRAC CPD

- **Air and Ground Lines of Communication (LOC) Repair and Construction Initial Capabilities Document (ICD)**
 - A general, over-arching document that captures JRAC capability requirements.
 - Currently at TRADOC for staffing; project forwarding to HQDA G-3 Aug 04.
- **JRAC Capability Production Document (CPD)**
 - Document to procure **off-the-shelf** capability not currently in unit.
 - Envisioned as “kit” for equipment required to provide full JRAC capability (i.e. laser leveling, roto-tiller, airfield damage repair, etc).
 - Use JRAC demo to identify capability gaps/proposed materiel solutions and optimal/required equipment mix for TOE.
 - Initiate CPD process.



JRAC Working Issues/Questions

- 1) Need to finalize, staff and obtain joint concurrence on JRAC Operational and Organizational (O&O) Concept (currently being developed).
- 2) Need to determine the suitability of RDE-L and/or RDE-M modules to perform JRAC missions. If not suitable, propose TOE design/equipment changes.
- 3) Need to identify required capabilities for JRAC CPD. For example:
 - What data does the Early Deployment Detachment (EDD) need to gather?
 - What depth do soil stabilizers have to be mixed?
 - How do we ensure timely JRAC airfield certification?
 - How does JRAC fit into the USAF air deployment planning process and future software tools?
 - What are the TTPs for each level of JRAC (repair existing airfield vs. rapid upgrade/MOG expansion vs. construction from scratch)?

